REMARKS

In response to the above Office Action, claim 4 has been rewritten in independent form and claim 3 has been cancelled. In addition, in claim 4 the height of the protruded portions has been changed to 15 to 300% of the width of the portions, support for which can be found on page 10, lines 16-19 of the specification.

Claims 5-9 and 11 have been amended to depend from claim 1 or 4.

New claims 13-17 have been added to cover preferred embodiments. Support for claim 13 can be found on page 8, line 12 of the specification. For claim 14, on page 7, line 14. For claims 15 and 16, on page 12, lines 27 to 29. For claim 17, on page 12, line 36 to page 13, line 2.

The withdrawal of all previous grounds of rejection of the claims as set forth in the Office Action of June 11, 2008 is appreciated.

Also, the allowance of the subject matter of claim 4 is appreciated. While Applicant changed the height limitation of the protruded portions, as discussed above, in rewriting the claim in independent form, the claim still includes the waviness cycle which was the basis for allowance of the claim. Thus claim 4 should now be in condition for allowance. Also, claims 5-9 and 11-17 when dependent from claim 4.

In the Office Action, the Examiner rejected claim 1 and claims 5-9, 11 and 12 under 35 U.S.C. §103(a) for being obvious over a newly cited reference to Matsuzaki et al. (U.S. Patent No. 6,647,550), hereafter Matsuzaki. While claim 3 was rejected for being obvious over Matsuzaki in view of Jacobs (U.S. Patent No. 5,836,016), this claim has now been cancelled.

Matsuzaki discloses in a swimsuit fabric that it is possible to form fine grooves parallel to a wearer's body in a lengthwise direction by the following structural changes

of the woven structure or the knitted structure of the fabric as disclosed in column 6, line 60 to column 7, line 8 of the reference.

1) When a raschel-knitted fabric is used, a fine rib-shaped knitted structure formed in a weft direction can be adjusted.

2) The surface of the fabric can be subjected to an embossing treatment by a high temperature high pressure roll.

On the other hand, in the present invention, examples of methods for providing a fabric with streaky protruded portions is as follows. See page 12, line 23 to page 13, line 2 of the specification.

A) A woven or knitted fabric is prepared with a jacquard machine and is imparted with an uneven shape.

B) The protruded portions are provided by a method comprising partially stacking part of the yarn of a knitted fabric such as a smooth knitted fabric or a half-tricot knitted fabric.

C) The protruded portions are provided by a method comprising forming an uneven pattern on a fabric with an emboss roll having a carved pattern.

D) The protruded portions are provided with such an emboss roll after the fabric is laminated with an elastic layer.

Providing a recessed portion by partially drawing part of the yarn during knitting, or providing a recessed portion with deep embossing is not preferred, because the surface roughness increases which increases fluid resistance. See page 14, lines 3 to 7 of the specification.

The surface roughness of a fabric can be decreased by means of the above methods A), B) or D). C) is not preferred because as a result, the fluid resistance on the fabric surface can be decreased. More specifically, to decrease the fluid resistance on the fabric's surface, as set forth in claim 6, it is preferred that the average deviation of a surface roughness in a directions parallel to the streaky protruded portions is 5 μm or less, and the average deviation of a surface roughness in a direction vertical to the streaky protruded portions is 8 μm or less. See page 13, lines 17 to 23 of the specification.

Accordingly, it is submitted that Matsuzaki cannot provide the claimed streaky protruded portions as set forth in claim 1 because the disclosed methods of making the protruded portions are different.

Regarding claim 5 when dependent on claim 1, this claim requires that the streaky protruded portions have a micro-unevenness having a depth of 80% or less of the height of the protruded portions in a direction vertical to the streaky protruded portions. There is no disclosure of this in Matsuzaki.

Regarding claim 6 when dependent on claim 1, as discussed above, even if a method disclosed in Matsuzaki is used to make the fabric, the surface roughness cannot be decreased to satisfy that defined in claim 6 of the present invention, because the methods disclosed in Matsuzaki are entirely different from the above mentioned methods A), B) and D).

Regarding claims 8, 15, 16 and 17 when dependent on claim 1, these relate to the methods A), B) and D), respectively discussed above for making the fabric which are not disclosed in Matsuzaki.

Regarding claims 13 and 14 when dependent on claim 1, Matsuzaki discloses that, to reduce surface friction resistance in water and suppress the occurrence of turbulence on the surface of the swimsuit, a water repellent treatment is applied to the entire surface of the swimsuit and the swimsuit has a plurality of fine grooves having a specific width, depth and pitch which are arranged in parallel to a body's lengthwise direction (see column 1, lines 55 to 61). Moreover, in column 7, line 40 to column 8, line 57, Matsuzaki discloses three experiments (1), (2) and (3) discussed below, to determine the preferable ranges of the width, depth and pitch of the grooves.

(1) When the width of the grooves is 200 μm and the pitch thereof is 2000 μm and then the depth of the grooves is gradually increased, a meaningful effect can be obtained when the depth of the grooves is set to 20 to 500 μm (Column 8, lines 6 to 17).

That is, when a protruded portion is considered as the portion between adjacent grooves, the above result shows the following: a meaningful effect can be obtained when a width of the protruded portion is 1800 μm and a height thereof is 20 to 500 μm (i.e., the height is 1.1 to 27.8% of the width of the protruded portion because "depth" is equal to "height"). In this case, an area of the protruded portions is 90% of the fabric area.

(2) When the depth of the grooves is 50 μm and the pitch thereof is 2000 μm and then the width of the grooves is gradually increased, a meaningful effect can be obtained when the depth of the grooves is 200 to 1500 μm (Column 8, lines 33 to 42).

That is, when a protruded portion is considered as the portion between adjacent grooves, the above result shows the following: a meaningful effect can be obtained

when a height (depth) of the protruded portion is 200 to 1500 μm. In addition, since a width of the protruded portion is unclear, a preferable ratio of the height to the width and a preferable area of the protruded portions to the fabric area cannot be calculated. According to Applicant, the description in column 8 is not entirely clearly.

(3) When the depth of the grooves is 50 μm and the width thereof is 200 μm and then the pitch of the groove is gradually increased, a meaningful effect can be obtained when the pitch of the grooves is 300 to 3000 μm (Column 8, lines 46 to 57).

That is, when a protruded portion is considered as the portion between adjacent grooves, the above result shows the following: a meaningful effect can be obtained when a height of the protruded portion is 50 μm and a width thereof is 100 to 2800 μm (i.e., the height (depth) is 1.8 to 50% of the width of the protruded portion). In this case, an area of the protruded portions is 33.3 to 93.3% of the fabric area.

The following Table 1 shows a preferred range of a height and an area of the protruded portions derived from the above (1) to (3) and the range set forth in claims 13 and 14 of the present invention for comparison.

Table 1

	Object of Experiment in Matsuzaki	Preferable shape of protruded portion	
		Height	Area
Experiment (1)	Determination of preferable depth of groove	1.1 to 27.8% of width (20 to 500 μm)	90% (constant) of fabric
Experiment (2)	Determination of preferable width of groove	Unclear	Unclear
Experiment (3)	Determination of preferable pitch of groove	1.8 to 50% of width	33.3 to 93.3% of fabric
The present invention		60 to 250% of width (claim 13)	30% or less of fabric (claim 14)

As shown in Table 1, it is clear that Matsuzaki cannot realize the limitations of these claims.

For example, in accordance with a result of Experiment (1), it is necessary that the groove depth be 1080 to 4500 μm to satisfy the height of the protruded portions defined in the present invention. However, in Experiment (1), a groove depth of 20 to 500 μm (i.e., 1.1 to 27.8% of the width) is preferred in view of a fluid resistance.

Accordingly, on the basis of disclosures in Matsuzaki, a person with ordinary skill in the art could not easily conceive that a height (depth) of the protruded portion is 60 to 250% of the width as set forth in claim 13.

As explained above, the present invention is entirely different from Matsuzaki in the shape of the protruded portion (the height and the area).

The reason is supposed as follows:

The method for providing the protruded portions is entirely different from the present methods for providing the grooves in the means and conditions.

A water repellent treatment is indispensable in Matsuzaki. On the other hand, in the present invention, the fluid resistance can be decreased without a water repellent treatment.

Moreover, there is no disclosure or suggestion in Matsuzaki regarding the embodiments defined in the present claims 13 and 14.

Finally, claims 11 and 12 depend from claim 1, so it is submitted they are patentable over Matsuzaki for the same reasons expressed above.

It is believed claim 1 and claims 5-9 and 11-17 when dependent from claim 1 are not obvious so that all of claims 1, 4-9, and 11-17 are now in condition for allowance.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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